

REMARKS

Review and reconsideration on the merits are requested.

Basis for Claim Amendments

Claim 9 is included in claim 1 and claim 9 canceled.

The refractive index of the low-refractive index layer finds basis at page 9, line 25.

The Art Rejections

Claims 1-6, 10 and 21 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,925,438 Ota et al (hereafter '438).

This rejection is avoided by including the limits of claim 9 into claim 1, claim 9 not being rejected.

Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over '438 in view of U.S. Patent 5,639,517 Floch et al (hereafter '517).

Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over '438.

Applicants rely on their arguments presented below to traverse the rejection of claim 8 and, since claim 9 has been included into claim 1, assume that the Examiner would now reject claim 1 as obvious over '438.

The Examiner's position is set forth in the Action and will not be repeated here except as necessary for an understanding of Applicant's traversal which is now presented.

Traversal

At page 2 of the Action, items 3. and 4., the Examiner states as follows:

"3. Applicant's argument in the 08 DEC 2008 amendment is that Ota does not talk about binder resins and Floch does not talk about the correct ones. Examiner respectfully disagrees. In the previous Office Action, item 5.a.ii, Examiner found that the binder resin was discussed in context of a low-index refractive layer. Column 3 Lines 40-63 teach a list of

materials suitable for use including alkyl-based polymers, polyethers, polyesters, acrylics and urethanes -- which are all listed in Claim 1.

4. Applicant's argument in the 15 DEC 2008 amendment is that by removing alkyl-based polymers, Ota would no longer be relevant. Examiner respectfully disagrees. Again, Ota teaches that the method disclosed at Column 5 Lines 10-46 can incorporate organic binder resins; examples of these resins are discussed further at Column 8 Lines 23-35 and include polybisphenol S glycidyl ether, which is a polymer containing an ether bond."

The Examiner's understanding regarding '438 at column 3, lines 40-63 and column 5, lines 10-46 is, however, incorrect for the reasons now explained.

'438 explains the hard coat layer of '438 at col. 3, lines 40-63.

It is disclosed that the refractive index of the '438 hard coat layer is, in general, approximately 1.49 to 1.51. See '438 at col. 4, lines 27-29.

'438 also suggests further increasing the refractive index of the hard coat layer. See '438 at col. 4, lines 29-48.

The refractive index of the '438 low-refractive-index layer which is an SiO₂ gel film is 1.38 to 1.46. See '438 at col. 5, line 12.

Thus, while the method of formation might be the same, quite clearly the low-refractive-index layer of '438 cannot be formed using the same components as are used in the hard coat layer of '438.

The method of formation of the hard coat layer is given in '438 at col. 4, line 49 to col. 5, line 8, which is just before the heading in '438 at col. 5, line 9 of "Low-Refractive-Index Layer".

It is to be specifically noted that '438 teaches that in the embodiments in Figs. 2-4, "the low-refractive-index layer 2 can be formed **in the same manner as the above.**" (Bolding added).

Applicant submits that it is quite clear that when ‘438 speaks of forming the low-refractive-index layer 2 “in the same manner as the above.” ‘438 is referring to the procedure at col. 4, line 49 to col. 5, line 8.

In short, Applicants submit that one of ordinary skill in the art would, in no fashion, be led to use the components of the hard coat layer in the low-refractive-index layer or be led to combine the components of the hard coat layer with the components of the low-refractive-index layer.

In short, ‘438 simply teaches that it is also possible to add an organic or inorganic binder to SiO₂ sol; see ‘438 at col. 5, lines 43-44.

Thus, the specific binder resins for the low-refractive-index layer of the present invention are not described in ‘438.

Applicant submits that the present invention can be characterized as follows.

The Present Invention

(1) An organic solvent is used (Feature 1).

A coating solution is used which contains an organic solvent which has a boiling point of 100°C or higher and is admissible with water.

(2) The content of the organic solvent (Feature 2).

The content of the organic solvent and the coating solution is at least 70%.

(3) The content of solids (Feature 3).

The solids content of the coating solution is 0.5 to 10%.

(4) An organic polymer (Feature 4).

A specific organic polymer is used for covering the surfaces of the inorganic fine particles.

(5) A binder resin (Feature 5).

A specific binder resin is used.

(6) The refractive index (Feature 6).

Viewing a combination of Features 1-5, the low-refractive index layer of the present invention is represented by a refractive index of 1.0 to 1.29.

Novelty

Since the low-refractive-index layer of the present invention is defined by a refractive index of 1.0 to 1.29, the same is not anticipated by the '438 low-refractive-index layer of 1.38 to 1.46.

Further, '438 is silent regarding the combination of Features 1-5 set forth above. Thus, the present claims are novel over Ota.

Unobviousness Over Ota

Features 1, 3 and 4

The present invention is characterized by certain characteristic features to establish the unobviousness of the present invention.

The present invention is first characterized by the fact that the low-refractive-index of the layer is achieved by voids formation.

The kind of solvent (Feature 1), the content of the organic solvent (Feature 2) and the solids content in the coating solution (Feature 3) have a major influence on the formation of the low-refractive-index layer.

The effect of the content of the organic solvent and the solids content is explained in the present specification at page 9, line 26 to page 10, line 17.

Neither '438 nor '517 describe or suggest the effect of the content of the organic solvent and the solids content and the relationship thereof necessary in accordance with the present invention.

Since neither '438 nor '517 describe or suggest the effect of these two Features, '438 alone or in combination with '517 cannot render the claims of the present application obvious.

Combination of Features 1-5

According to the combination of Features 1-5, a refractive index of 1.10 to 1.29 is achieved in the low-refractive-index layer of the present invention.

'438 and '517 are silent regarding the combination of Features 1-5.

Further, refractive index in '438 is not as low as in the present claims.

As a consequence, neither '438 alone nor '438 in combination with '517 disclose or suggest the features of claim 1 herein or the advantageous effects of the present invention.

Applicants respectfully submit that the claims herein stand allowable over '438 or, for claim 8, '438 in combination with '517, and request allowance.

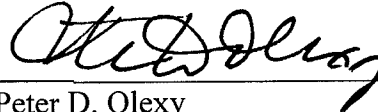
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.116
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